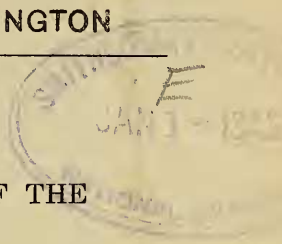


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NOTES ON THE TAXONOMY OF THE
TROMBICULID MITES.

BY H. E. EWING,

*Bureau of Entomology and Plant Quarantine, Agricultural Research
Administration, United States Department of Agriculture*

The following notes on the trombiculid mites have to do chiefly with their classification. In 1929 the writer established the subfamily Trombiculinae for all the trombiculid mites (chigger mites) which at that time were included in six genera. In 1938 this key was enlarged in the form of a classification to include 15 genera. There are now described in the group no less than 26 valid genera, one of which is decidedly divergent and unusual. For it a new subfamily is here created and the trombiculid group as a whole is raised to the rank of a family. In addition two new genera are established, a new generic name is proposed, and the status of a specific determination is discussed.

Trombiculidae, new family.

'The family Trombiculidae here established may be separated from the Trombidiidae which previously has included it by means of the following key:

- Abdomen of adults and nymphs strongly constricted somewhat in front of middle; eyes, when present, never stalked, frequently situated near base of cephalothorax and frequently farther caudad than the pseudostigmata. Eggs laid singly. Larvae parasitic on vertebrates. Trombiculidae, new family
- Abdomen of adults and nymphs not constricted; eyes usually present and frequently stalked, but never situated near base of cephalothorax or farther caudad than the pseudostigmata. Eggs laid in clusters. Larvae parasitic on invertebrates Trombidiidae

Hemitrombiculinae, new subfamily.

Characters of larvae: Chelicerae each with only one dorsal tooth.

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Palpal claw divided into two prongs. Eyes present. Dorsal plate without anterior median process, crista, median seta or submedian setae. Abdomen not constricted behind the shoulders and without posterior dorsal plate; setae all simple, arranged in transverse rows. Tarsal claws two, unequal.

Type genus: Hemitrombicula Ewing.

This subfamily is erected for the very peculiar genus *Hemitrombicula*, and its only species, *H. simplex* Ewing. This species has been taken only from the inside of the mouth of a North American snake, where the mite larvae were attached between the rows of teeth.

Crotiscus, new genus.

Characters of larvae: Each chelicera armed with a single dorsal tooth. Palpal claw simple, undivided. Dorsal plate without median process, or carinae and provided on its anterior margin with a median seta and a lateral pair of pectinate setae. Pseudostigmata nearer the anterior margin than the posterior margin of dorsal plate; pseudostigmatic organs long, filiform, with lateral branches. Dorsal abdominal setae less than 22, pectinate, all similar in size and structure.

Type species: Trombicula desdentata Boshell and Kerr.

The name of this genus is derived from *Crot* (*o*), a tick+*isc* (*us*), a diminutive. It is most nearly related to *Trombicula* Berlese, *sensu stricto*, from which it differs in having the palpal claw simple and the number of dorsal setae less than 22.

Whartonia, new genus.

Characters of larvae: Each chelicera obliquely flattened at distal end forming a "spearhead" with teeth on its margins. Palpal claw with 3 to 4 prongs; palpal setae all simple. Eyes present. Dorsal plate subrectangular, without an anterior median process; with a pair of submedian setae somewhat posterior to its anterior margin and situated on a low, allantoid tubercle. All setae on dorsal plate simple, including the pseudostigmatic organs. Dorsal setae of abdomen simple, many, most of them arranged in 4 transverse rows. Middle tarsal claw almost as stout as outer claws.

Type species: Hannemania nudosetosa Wharton.

This genus is named after Lieutenant (j. g.) G. W. Wharton, of the United States Naval Reserve, who described the type species. Lieutenant Wharton is now with Naval Medical Research Unit No. 2 in the South Pacific. *Whartonia* is most nearly related to the genus *Hannemania* Oudemans from which it is derived. It differs from Oudemans's genus in having all the body setae simple and the anterior submedian setae of the dorsal plate situated on an allantoid tubercle.

Heaslipia, new name.

The generic name *Trombiculoides* Womersley and Heaslip, 1943, is found to be preoccupied by *Trombiculoides* Jacot, 1938. The name *Heaslipia* is given to it in honor of one of the authors of *Trombiculoides*, W. G. Heaslip, who has made extensive contributions to our knowledge of tsutsugamushi fever and the trombiculid mites in Australia.

Gater's Identification of *Trombicula akamushi* (Brumpt) from the Federated Malay States.

Womersley and Heaslip (1943) have questioned Gater's identification of *Trombicula akamushi* (Brumpt) from Selangor, Federated Malay States. Their justification for such action was based upon the examination of material received from Dr. Takenouchi of the University of Tokyo. This material, however, was not a part of that examined by Gater. They state that because of their study of this material received from Dr. Takenouchi "we are able to satisfy ourselves that the specimens from the Federated Malay States do not agree with the Japanese material . . ." And they add the further statement, "in all probability the Japanese species does not occur other than in Japan and Formosa." This statement is very interesting to the writer since he checked the identifications made by Gater. However, since the identification has been questioned, I have reexamined the five Malay specimens given to the United States National Museum by Gater. They bear the following data, "from *Rattus r. falorensis* (Bonh.), Elmina, 5:3:29," and agree in all essential characters with specimens of *akamushi* from Japan. It was found, however, that there is a considerable individual variation among these specimens, taken from a single host and at one time, in regard to the relative length of the setae of the dorsal plate. This is of special significance since the differences in length of these setae was an important point for the characterization of *akamushi* by Womersley and Heaslip. In one of the specimens the anterior median seta is longer than both the anterior lateral setae and the posterior lateral setae. In another specimen the anterior median seta is longer than the anterior lateral but shorter than the posterior lateral. Yet in still another specimen the anterior median is shorter than both the anterior lateral and the posterior lateral.

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